



2005 Proposed Water Quality Rule Revisions and Use Attainability Analysis – Frequently Asked Questions

Water Protection Program fact sheet

8/2005

What are the purposes of the 2005 proposed changes to Missouri's water quality rules?

The proposed revisions to the water quality rule update standards and measurements to reflect recent federal guidance and advancements in science. The goals of the federal Clean Water Act require all waters to be considered fishable and swimmable. The proposed rulemaking will add a use designation known as "Whole Body Contact Recreation" (WBCR) to the classified water bodies that are not currently designated for whole body contact, except where it has been shown that no swimming uses occur, and stream characteristics make any swimming in the water highly unlikely.

How is it determined whether WBCR is attainable on a stream?

The proposed rule would presume and protect for swimming uses for all classified waters of the state. In the few cases where a WBCR use designation may be removed, a study called a Use Attainability Analysis (UAA) must demonstrate that: 1) no swimming uses occur on the stream; and 2) stream characteristics, such as depth, make it extremely unlikely that any swimming could occur on the stream.

What will be the overall effects of the proposed 2005 rule amendments?

Bacterial standards to protect swimming were previously required on only 5,000 miles of state streams. The greatest overall effect will be to add about 16,000 miles of Missouri streams and 300 lakes to the list of those protected for swimming use.

How does water quality regulation work?

Water quality regulations do several things:

- Classification: listing the classified bodies of water in the state,
- Designation: determining and designating the beneficial uses attainable for each water body
- Standards: appropriate water quality criteria are established to protect each beneficial use designated.

How does the use of a stream or lake affect the water quality standards that apply to it?

All classified waters of the state are identified by how the water is used. These uses are called beneficial uses. Associated with each use is a set of water quality criteria that must be met to ensure the water can safely be used as designated. Therefore, the water quality is protected appropriately for the specific uses of each water body.



How does swimming affect the water quality standards applied to a body of water?

Swimming and other uses where a person is fully immersed in water are parts of the beneficial use known as Whole Body Contact Recreation (WBCR). Until the current rulemaking, the designation of whole body contact was placed only on those waters where swimming or other full immersion recreational activities were brought to the attention of the Missouri Clean Water Commission and the department. Through this process, only about 25 percent of Missouri classified waters were previously designated for whole body contact.

How are water quality standards on swimmable waters different than on other waters?

Bacteria criteria are applied to protect Whole Body Contact Recreation use. A new bacteria standard is also proposed for waters with Secondary Contact Recreation (SCR) uses. SCR uses may be designated on streams not deep enough to attain a WBCR use, but where activities like wading or canoeing still merit some limits on bacterial levels to protect the user.

What are the current and proposed bacteria standards for WBCR and SCR uses?

The current standard for WBCR use is 200 colonies of *fecal coliform* per 100 milliliters of water and the department is proposing 126 colonies of *E. coli* per 100 milliliters. The proposed standard for SCR is 1800 colonies for fecal coliform and the department is proposing 1134 colonies for *E. coli* per 100 milliliters of water. By comparison, a bacteria count in treated domestic wastewater where disinfection is not part of the treatment can be as high as 10 thousand colonies per 100 milliliters of water or more.

Are there costs for upgrading our waters to swimming designations?

If people in the community do swim in a stream, it is important to ensure the water is clean enough to safely do so. Sewage treatment plants may have to add expensive upgrades to their systems to accomplish disinfection. If the disinfection process uses chlorine, the chlorine may also have to be removed from the wastewater before it goes into a stream, so other uses, such as aquatic life, are protected.

How much will it cost for Missouri wastewater facilities to disinfect their effluent?

Depending on the size and design of a wastewater facility, the upgrades and annual costs needed to disinfect its discharge may range from a few thousand up to hundreds of thousands of dollars. The total statewide cost to permitted facilities to design and build disinfection to comply with this proposed rule has been estimated to exceed 300 million dollars.

Is there any way a wastewater facility discharging to a WBCR-designated stream can avoid having to disinfect its discharge?

The only way a facility discharging to a WBCR-designated stream can avoid the need for disinfection is by proving through an accepted analysis that its discharge will not cause a violation of the WBCR bacterial standards.

Aren't there some streams where no swimming use can really take place?

On streams where a Use Attainability Analysis (UAA) has shown no swimming or wading use, and where stream characteristics prevent any swimming, the stream may have the designations

for WBCR removed. Wastewater facilities discharging on these streams may not be required to disinfect discharges, as long as the bacteria discharged does not survive downstream far enough to cause any violation of the bacteria standards where a WBCR use or secondary contact recreation use is designated.

What is a Use Attainability Analysis (UAA)?

A UAA is a study to gather facts on the actual uses of the water body. It helps the department determine how the state's waters are being used. Where a UAA has been performed, someone went to the stream and conducted a stream survey, making observations about many stream characteristics, including depth. Field sheets, pictures, and maps must be included in the documentation for each UAA, and all the documentation is posted on the department's UAA web page at <http://www.dnr.mo.gov/wpscd/wpcp/wqstandards/uaa>.

Does a Use Attainability Analysis mean you're not going to protect the streams in Missouri?

The department's mission has been clearly defined by the legislature: protect and preserve the waters of the state. A UAA is simply a tool that helps determine which waters will not benefit from additional and unnecessary protection requirements. UAAs help us develop a sensible approach to our water protection efforts.

Do the proposed rule changes mean we will allow some treatment facilities to dump raw sewage in our waters?

Absolutely not. All treatment plants in Missouri are already required to meet certain water quality standards. Discharges are routinely tested for elements that may be harmful to a stream. Use Attainability Analysis does not relieve them of their current responsibilities.

Why not consider all streams suitable for swimming, and protect them accordingly?

Under the Clean Water Act, all waters must be considered fishable and swimmable unless those uses are not attainable. To apply the Act properly, on waters where WBCR use is proven to be non-attainable, provisions must allow facilities discharging to those streams to be spared the expense of installing purification equipment, when it's not absolutely necessary. Determining how a body of water is used by performing a UAA and seeking public comment on it helps the state navigate the critical balance between health protections for those swimming in streams and economic considerations for communities that provide wastewater treatment.

How is depth used as a criterion for the recommendation of WBCR use?

Waters that have some portion at least one meter in depth or an average of a one-half meter depth are considered potential locations for swimming. On waters too shallow to meet either the one-meter minimum or half-meter average, a WBCR use designation may be removed. However, if a stream is known to be used for swimming at all, regardless of depth, bacteria standards to protect swimmers will still be required.

If streams have varying depths through the reach, how are they evaluated?

If the depth requirement is met at a stream site, and is representative of the stream's beginning, middle, end or throughout, that stream segment is recommended for WBCR designation. If only a certain portion of the stream meets the criterion, the department may recommend that only the portion meeting the criterion be designated for the use.

Does performing a UAA necessarily mean WBCR use will be removed?

Not at all. In the round of UAAs for the 2005 rulemaking, fewer than half of the UAAs resulted in a department recommendation to remove a WBCR use. All streams are considered swimmable or usable for whole body contact until proven otherwise.

How far downstream can a wastewater discharge impact a stream's WBCR use?

The bacteria present in wastewater effluent do not remain like other pollutants, they eventually die after entering a stream. If a treatment plant or other source of bacteria discharge is within two miles upstream of a water designated for WBCR, or water quality studies show they could impact a WBCR designated area, then the discharge would need to be disinfected.

Does the designation of WBCR guarantee that water is safe from bacteria?

Bacteria levels in bodies of water are always changing, and it is not possible to monitor every stream in the state at all times of the year. Non-point sources of bacteria such as manure from livestock, pets and wildlife may be a significant source of bacteria. The application of appropriate bacteria standards to the stream ensures that all sources of bacteria are considered. The permitting and operation of wastewater treatment plants provides significant protections to Missouri streams. However, in some locations the reduction of other sources of bacteria may be necessary to fully achieve the water quality standards in streams.

How are the department's stream use recommendations developed?

A committee from the department's Water Protection Program reviews each UAA along with all supporting material, and makes a recommendation for a use designation to the Missouri Clean Water Commission. The recommendation may be to retain a WBCR use, remove that use, or modify the use by dividing the stream into portions with different use designations. Where stream depth is too shallow for swimming but other recreational use occurs, a stream may be recommended for a Secondary Contact Recreation (SCR) use -- uses like wading/canoeing etc, where swallowing the water is unlikely. The bacteria standard proposed for SCR limits bacteria less than the standard for WBCR use, but still provide more protection than may currently be provided.

Does anyone else besides the Department of Natural Resources have to approve the designated uses of a stream?

The Clean Water Commission (CWC) will approve or disapprove the department's recommendations on any WBCR use designation. When the CWC approves a WBCR use removal, the U.S. Environmental Protection Agency (EPA) then must also approve or disapprove of the WBCR use designation once the designation is into rule.

What are the timelines for public reviews of UAAs?

For the 2005 rulemaking, the UAAs and recommendations were available for public review by July 25, 2005. A special comment period specifically for the UAA field sheets, supporting information, and committee recommendation ran from July 25 to August 24, 2005.

What were the recommendations from the 2005 round of UAAs?

During the 2005 rulemaking, of the 396 valid UAAs received on some stream segment in the state:

- ◆ 173 recommendations were made to retain WBCR use.

- ◆ 153 water bodies were recommended to have WBCR use removed.
- ◆ 19 recommendations were made to modify use.
- ◆ 51 were inconclusive. This means there was not enough evidence to support a removal of use, but the possibility remains that the use could be removed at a later rulemaking, if more evidence is gathered. Because of the statewide presumption that designates all waters for WBCR unless unattainable, the Clean Water Commission will retain the WBCR designations for bodies of water where inconclusive UAAs were performed.
- ◆ The current recommendations would designate 100 percent of classified lakes and about 96 percent of stream miles for Whole Body Contact Recreation use.

When will the 2005 rule amendments become final?

The rule is expected to become final on or before April 30, 2006. That is the date imposed on EPA by the Consent Decree signed with the Missouri Coalition for the Environment for again reviewing the state program for full conformance with the Clean Water Act. If EPA finds the state program remains deficient on the rules as they apply to the “fishable and swimmable” goal, EPA will take further administrative action, including possible federal rule promulgation, to remedy the deficiency.

On waters newly designated for WBCR, when will wastewater facilities have to begin disinfecting their discharges?

The implementation of the rule amendments for these facilities is tied to the renewal of their operating permits. After the rule becomes final, at the next renewal of the operating permit for these facilities along with the permit renewal a deadline will be provided for when to begin disinfecting. Facilities may have up to three years after their renewed permit is issued to begin disinfecting.

Can there be any changes to the designated uses of streams after the 2005 rulemaking?

UAAs received after July 14, 2005 will be considered in future rulemakings. Rulemakings will be done as often as possible, at least annually.

Web information:

Please visit our Web Pages for more information on UAAs and recommended stream use designations.

- ◆ UAA main page: www.dnr.mo.gov/wpscd/wpcp/wqstandards/uaa/index.html
- ◆ UAA protocol: www.dnr.mo.gov/wpscd/wpcp/wqstandards/uaa/wpp_wqs_uaa.pdf
- ◆ County-by-county listings of UAAs and recommended stream use designations: www.dnr.mo.gov/wpscd/wpcp/wqstandards/uaa/uaa_county.htm

For More Information

For more information about water quality and Use Attainability Analysis issues, contact:

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